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The National Geospatial Data Clearinghouse

An estimated 4 billion dollars is spent annually by the Federal government on the production, management, and dissemination of geospatial data. Many of these funds may be expended to collect already existing data, but the ability to determine the availability of data is almost non-existent. The National Geospatial Data Clearinghouse is a means of finding geospatial data, determining its fitness for use, and obtaining or ordering it as economically as possible.

WHAT IS THE CLEARINGHOUSE?

The Clearinghouse is a distributed, electronically connected network of geospatial data producers, managers and users. It is not a central repository where data sets are stored. Through the Clearinghouse, finding geospatial data will some day be as easy as obtaining cash in a foreign country through an automated teller machine.

Federal agencies are beginning to make information about spatial data, called metadata, available on the Internet as part of their participation in the National Spatial Data Infrastructure (NSDI). Executive Order 12906, signed by President Clinton in 1994, requires Many current implementations make use of the

all Federal agencies that produce geospatial data to document new data sets produced after January 1995 using the Content Standards for Digital Geospatial Metadata adopted by the Federal Geographic Data Committee. The Executive Order also mandates that metadata be made available through the Clearing-house so that the public can determine what geospatial data exist, the condition of these data, and how to access them. The Executive Order applies only to Federal agencies, but a wide variety of data producers and users throughout the nation including State, local, and tribal governments, academia, and the private sector are participating in the Clearinghouse.

HOW DOES THE CLEARINGHOUSE WORK?

Rapid change is the hallmark of today's information society. The Clearinghouse is evolving as quickly as the technology that makes it possible. Each data producer or maintainer is expected to describe available data in electronic form and provide these descriptions (the metadata) to the Internet using a variety of software tools. Clearinghouse sites are linked through the Internet.

World Wide Web technology that supports the use

of such client browsers as Mosaic and Netscape. Text-based metadata descriptions can be accessed by data users at remote sites and read using these client programs. Based on the data descriptions, a user can decide whether the data set meets their needs. Frequently, a data producer will provide direct on-line access to the data set, although this is not a requirement of the Clearinghouse. Hypertext technology allows linking to data sets that are not stored on the same server as the metadata. If data sets are not available on-line, the metadata will contain information about how they can be ordered.

One of the essential requirements of the Clearinghouse is that it embody the ability to search for geospatial data over the Internet. A communications protocol known as Z39.50 is currently the focus of research within the spatial data community as a vehicle to allow remote searching for data. Metadata can be indexed by servers running Z39.50 and users can craft remote searches based on elements of the metadata, for example geographic location, date of creation, or source material. Browse software such as Mosaic can provide gateways to these servers, allowing graphic or forms-based queries for data.

BENEFITS

The abilities to search for data and to determine their relevance are critical skills in a knowledge-driven economy. The use of geographic information systems technology is spreading, and along with it the demands for more and better geospatial data. The Clearinghouse of the future will provide the information to more economically find, share, and use geospatial data.

HOW TO PARTICIPATE?

The Federal Geographic Data Committee is the contact for prospective participants.

If you are a data producer:

- Learn and use the metadata standard.
- Establish a Clearinghouse node to provide metadata on the Internet.
- Inform the FGDC of the existence of your node.
- Participate in discussions of Clearinghouse issues on the Internet mailing list NSDI-L.
- Encourage vendors to provide tools needed to participate in the Clearinghouse.

If you are a data user:

- Provide feedback to data producers on what information about data is important to you.
- Investigate the means to access the Internet.
- Participate in discussions of Clearinghouse issues on the Internet mailing list NSDI-L.
- Encourage vendors to provide the tools needed to use the Clearinghouse as part of their products.

ADDITIONAL INFORMATION

More information about the Clearinghouse can be obtained at the address above. The World Wide Web site <URL://<http://www.fgdc.gov/>> contains links to Clearinghouse sites throughout the country. Instructions for joining the NSDI-L mailing list are also available from the FGDC. The following related publications can be obtained from the FGDC:

FGDC Fact Sheet

NSDI Fact Sheet

Metadata Fact Sheet

The Value of Metadata

Metadata Workbook